like to bring up an illustration. Last week I was called in to see a patient early in the evening. I found the child had been to Sunday school that morning, had complained of not being well for 2 or 3 days, had come home that day and had developed a high temperature with delirium, swelling of the neck, and for the first time complained of sore throat. I found a child of nine years of age with both tonsils and a portion of the anterior pillars of the fauces covered with a membrane. That child immediately received 3000 units of antitoxin. As the child was nauseated no other treatment was given. I saw the child the next morning, and while the dose had spread the membrane and had been sufficient to prevent death, the child was still markedly toxemic. I immediately administered 6000 units more and that afternoon convalescence had commenced. It is a difficult matter to get at the proper dose of this drug.

Dr. J. Maher, Oakland—If there is anything which Dr. Burrow's paper emphasizes in particular it is the importance of meeting the toxins with antitoxin in sufficient quantity to neutralize them. That is what his paper has proven beyond all other things. I have in my paper confined myself to established facts. When we get enough of such experiments as Dr. Burrow's, then we can establish them as facts. I go a long way in agreeing with him in regard to the dose. I do not mean to say when I mention 1500 units that we begin all cases with that amount. I was simply making reference to the broad range that we have in the different cases. I have used myself 2500 or 3000 units with very young children. In some cases I have used 5000 or 6000 at the first dose. I think that one generally accepted fact is that after the administration of antitoxin, local treatment should not be abandoned.

Dr. Burrows—I lived 2 years in a diphtheria hospital in New York and we had 250 cases most of the time. I never had it and never took any antitoxin. I was a youngster and gave very large doses although many critics said that they would kill the patient. I do not believe in giving large doses to everybody. If one dose is sufficient, all right, otherwise give another. In ideal conditions in uncomplicated cases, 99% of patients can be saved. Patients do not get antitoxin early enough. Sometimes the onset is exceedingly quick. Not all of the increased death rate can be attributed to the practitioner. In the case reported, this physician's boy almost died. He was sick three days before he recognized it. I once had a case of a child of a physician and I lived 6 days and 6 nights under the same roof, treating and watching that child. The father objected to giving any more antitoxin than was necessary, and asked if it were necessary every time a dose was given. We should try to neutralize the toxin. As far as pseudo-diphtheria is concerned, I do not know anything about it. All cases which have membranes covering the throat I call diphtheria and I treat them as such. If there is a thick membrane this may contain millions of bacteria. The mucosa underneath may contain as many, but the swab does not remove them. In diphtheric inflammation you find that the chronic process extends for a considerable distance into the mucosa. As Dr. Barbat said, we often meet doctors who know nothing about antitoxin or its use.

The Colorado State Medical Society is considering the establishment of its own journal, to take the place of the annual volume of Transactions it has hitherto published. At its last meeting the publication in journal form was strongly advocated; and a committee has been appointed to submit plans and estimates for such a journal at the meeting of the Society to be held October 6 and 7, 1903.

ABDOMINAL DRAINAGE.*

By STANLEY STILLMAN, M. D., San Francisco.

THE present paper is presented not because the writer has any new theories to advance on the subject of abdominal drainage, but because the general views and practice regarding it have changed so greatly in the past few years, that it seems well to submit it to you for consideration and discussion. It is my intention, and I consider it my duty, to contribute to the subject the results of my own experience, which if not great, has been varied and may add something to the weight of authority which is accumulating on this subject. There is not time to present anything like a complete history and review of the subject in the limits of the present paper, and I shall not burden you with statistics, though at some future time I may consider it my duty to do so.

As late as seven or eight years ago it was the custom to use drainage in the great majority of cases after intraabdominal operations, and the rule was, whenever in doubt, to use drainage. The general indications were: *First,* any soiling of the peritoneum from rupture of pus tubes or cysts; *Second,* oozing from raw surfaces; *Third,* after most cases of intestinal suture; *Fourth,* when there was persistent capillary bleeding or when secondary hemorrhage was feared, particularly when large pedicles were tied with the Staffordshire knot, then in vogue; *Fifth,* in cases of tubercular peritonitis; *Sixth,* in diffuse peritonitis, septic or otherwise, on general principles, as applied to any wound the lips of which were closed.

It was known that the peritoneum was capable of absorbing immense quantities of fluids, and that it was able to manage, and finally dispose of, considerable sized masses of aseptic substances; but it was not known, and still is not by many, that if its function and vitality be not interfered with, it is capable of managing and disposing of considerable quantities of septic fluid also, as has been repeatedly observed clinically and proved experimentally. Of course, the variety and virulence of the micro-organism has much to do with this. There are many cases of peritonitis that are rapidly fatal; but many more will recover if not drained than if they are. Of this, I shall speak more fully later on. I would like to consider these indications for drainage in order, and speak finally of its use when peritonitis is already more or less advanced.

First, let us consider those cases in which there has been actual soiling of more or less of the peritoneum by fluids from cysts, old pus tubes, etc. In the first place, the contents of these pus tubes is almost always sterile. For the past five years I have had cultures and cover glass preparations made of all such fluids, and while often micro-

*Read at the Thirty-third Annual Meeting of the State Society, Santa Barbara, April 21–23, 1903.

organisms are present in the cover-glass preparation, they very seldom show any growth on the common culture media. Formerly I always drained such cases. Now, by careful protection of the surrounding parts with abundance of gauze before attempting the removal of a diseased tube, I am not disturbed should it be ruptured, nor do I now take the time and pains to avoid such rupture, as I used to, fearing more the shock to the patient and damage to the peritoneum from prolonged exposure and handling, than the danger of infection from the contents of the tube or cyst. Should such soiling have occurred, I carefully remove the fluid with sponges, mop the surface off thoroughly with salt solution, and proceed as though the rupture had not occurred, finally closing without drainage. I avoid antiseptic solutions on account of their effect on the endothelium of the peritoneum, and a drain for reasons hereafter to be mentioned. What I am particular about is the careful removal of all blood clots and particles and shreds of devitalized tissue, the arrest of oozing, with temporary packing and the papuelin if necessary, and the covering of raw surfaces with omentum before closing; and I am not afraid that the omentum or the uninjured surface of the intestines will handle any infection that may be present. Should the case be one of an acute type, (and I am very loath to operate in that stage, by the way) the danger is vastly greater, and of course the greater, the more virulent the organism; but the peritoneum will handle the infection better than will the drain.

Second—So far as oozing from raw surface is concerned, it can be stopped by temporary packing or the cautery, in most cases, and if it continues is less to be feared without drainage than with it; for while the drain will stop oozing, infection is apt to follow its track, particularly if much bleeding follows its removal, as is often the case.

Third—As to the third indication, I think that very few surgeons to-day think of using drainage through fear of secondary hemorrhage. With proper technique in the matter of ligating, and if all raw surfaces in the broad ligaments, mesentery and elsewhere are covered by suturing the peritoneum properly over them, there need never be a drain used.

Fourth—After intestinal suturing the drain should never be employed, except in those cases where the suturing is known to be faulty and unsatisfactory, and is expected to give way, in which case the use of a drain is imperative. I do not recall having lost a case of intestinal suturing from peritonitis since I stopped using drainage afterwards, about five years ago. Previously I usually inserted a gauze drain and generally lost my patient between the sixth and the eighth day. Naturally an improved technique has had something to do with this as well as the omission of the drain. Still, I abandoned the drain because of my conviction that it was due to its use that infection occurred in several cases, and that leakage occurred in others due to its removal, and since ceasing to use it in these cases, I have not, as I have said, lost a patient from leakage or infection at the point of suture.

Fifth—As regards tubercular peritonitis, I have also ceased to use the drain in these cases. The old idea was to starve the process by continuous drainage. The present idea is the admission of air, (that is, oxygen), as well as the removal of the fluid. I have had persistent tubercular fistulæ and hernias follow operation in the cases I drained, after the patients were well of the tubercular peritonitis. When I finally had a case of fatal septic peritonitis supervene six weeks after the drain was removed, I ceased using it in these cases altogether, and the results have been better, for the patients have all recovered, so far as I am aware, though in one case I opened the abdomen three times, and there has been no return of the symptoms after a year and a half. From the foregoing, it may be seen that of these five conditions that were considered indications for drainage six or eight years ago, not one of them is considered, in my own practice, sufficient to call for the insertion of a drain of any form into the abdominal cavity, and my judgment is that those patients who recovered when drainage was used, recovered in spite of the drain, and not because of it. The objections to the drain are many and obvious to all. Briefly, the drain almost invariably becomes infected before removal, and through it micro-organisms reach blood clots and devitalized shreds of tissue, or fluids, that were previously sterile. Owing to the damage done by its removal, infection may extend with fatal consequences, as has happened in my experience, in cases that were originally clean; without commenting on delayed healing, prolonged suppuration or secondary hemorrhage, cause not prevented, by the drain. When any general soiling or infection of the peritoneum has occurred, drainage is absolutely useless, because, as a drain, its function ceases in a few hours in consequence of the formation of lymph around it, which the irritation of its presence causes.

But the great overruling, all important objection is, that the idea is all wrong. The idea that the peritoneal cavity can be drained, as the pleural cavity or the knee-joint can be, is wrong anatomically and impossible practically, no matter how many or what kinds of drains be inserted, and more than that, the principle is wrong physiologically as pointed out by Clark, in Vol. VII, *John Hopkins Hosp. Reports* and *University of Pennsylvania Med. Bulletin,* Nov. 1901. Its application interferes seriously with the function

the normal peritoneum has of draining itself, and protecting itself and the general system, even when very considerable quantities of septic fluids and organisms are injected into it.

Sixth—Coming finally to cases in which infection has actually occurred and local or general peritonitis is present, we will consider first, localized conditions. In all localized walled-off collections of pus within the abdomen, I use a drain after carefully evacuating and washing out the abscess. In these cases the wall of lymph around the collection prevents infection of the general peritoneum and equally prevents the general peritoneum from acting physiologically, hence these abscesses are to be treated as any other abscesses. If sufficient skill and patience be used, their contents may be evacuated without soiling either the wound or the surrounding intestines. The drain may often be brought out through the vagina, rectum or flank in such a way that the original abdominal wound may be closed at once, after arranging the omentum over the opening that has been made between the abscess and the general peritoneal cavity. If this cannot be done, I employ a Mikulicz drain, filling the bottom of the bag which occupies the interior of the abscess pretty full with a long strip of gauze, but I leave as little as possible between the lips of the wound. The wound is closed quite tightly around the drain. The interior packing is partly removed after twenty-four hours and entirely after forty-eight hours. The bag is not removed until it is loosened by the suppuration and comes away without causing pain or bleeding, usually about the sixth or seventh day. Two rubber tubes, side by side, are inserted on its removal, and usually the opening in the wound is just sufficient to admit them. These of course, are rapidly shortened and removed. In the rectum the self-retaining T drain of rubber is used, and in the vagina either the same or a gauze drain in the form of a long strip. The gauze in all these cases is simple sterilized gauze. When a diseased organ, as the appendix, forms part of the wall of such an abscess, I do not generally remove it at the time of the opening of the abscess, unless the quantity of pus be small, although I am to a great extent guided in this by the character of pus and other circumstances attending each individual case.

The great danger of general septic peritonitis lies in the existence of a focus from which is furnished a continuous supply of organisms and toxins, and our first duty is to eliminate such a source of supply, whether it be a gangrenous or perforated intestine, an infected blood clot or an abscess in the abdominal wall communicating with the peritoneum. If the infection in these cases be a streptococcus infection, a rapidly fatal peritonitis is almost sure to occur, whatever is done. The staphylococcus, either white or yellow, is also a very dangerous organism, but I have been surprised to find that they are rather infrequently met with in intraabdominal abscesses or fluids. The colon bacillus is, of course, most frequent, but the pneumococcus, often in pure culture, I have found very frequently. These latter germs are not so virulent, and I have seen a number of patients with general peritonitis in which they were present, recover. Now it is in cases in which general peritonitis has started, a greater or less area of peritoneum is reddened and thickened, and there is a considerable amount of fluid present in the pelvis, or diffused over the surface of the bowel, that the question of drainage is really to be considered. Formerly it was my practice to always drain such cases, frequently through several different incisions; but after finding from cultures that the fluid, often quite creamy, was generally sterile, I gradually dispensed with it and found that the patients recovered more surely, and with almost none of the distressing complications that so often attended the use of the drain.

A diseased appendix is by far the most frequent cause of septic peritonitis, which may start, as is known, without any perceptible perforation and receive constant additions of new organisms from the interior of the appendix. In cases of peritonitis following appendicitis, if on opening the abdomen I find the appendix free, or practically so, I remove it; then if the peritonitis has not progressed far, I close the abdomen without drainage, after wiping very gently the region where the appendix lay, and also the surrounding region, with sterile salt solution, or sometimes with weak carbolic solution. If there is, in addition to the commencing peritonitis, a mass of adhesions containing pus and the diseased appendix, I evacuate the abscess, and generally remove the appendix regardless of adhesions, for they have proved inadequate. The more or less abundant peritoneal fluid is removed with sponges, as gently but as thoroughly as possible, and if the abscess is large, and the peritonitis limited or moderate, I use a large gauze drain at the site of the abscess, as described above, leaving the general peritoneum to take care of itself. When there have been little or no adhesions formed, but there is extensive general peritonitis, or when the free fluid in the peritoneum has a distinctly foetid odor, I first remove the appendix and then wash out the abdominal cavity very thoroughly with warm salt solution, and use no drain, even at the site of the appendix, but close the abdomen tightly, trusting to the ability of the peritoneum to handle the diffuse infection in its own way; and I try to avoid embarrassing or impeding the natural drainage by

inserting masses of gauze, tubes, or anything else around which adhesions may form.

The limits of this paper do not permit me to discuss the treatment of peritonitis in general, nor consider Ochsner's plan of not operating at all in septic peritonitis, nor the postural treatment of Clark and Fowler. But from my own experience, so far as the drain is concerned, I would limit its use after intraperitoneal operations to these cases: 1st, in which there are single or multiple walled-off collections of pus; 2d, in which necrotic tissue must be left behind within the peritoneum; 3d, in which intestine is seriously damaged or the suturing of which is known to be faulty and almost sure to give way.

DISCUSSION.

Dr. T. W. Huntington, San Francisco—I want, in opening this discussion, to express my very high appreciation of this paper. Five years ago had such a paper been presented it would have met with a feeling of hesitancy. I think we have arrived at a point where such a procedure will be acceptable to the large majority and will be adopted by the large proportion. I think that while few have so far adopted this plan, most surgeons are leaning in that direction. If we can rule out those cases in which abdominal drainage is necessary, we shall find that abdominal drainage will succeed. There are two factors encountered in dealing with any surgical case. First, that represented by X, the patient; second, that represented by Y, the personal equation of the operator. The first is the more important. Upon the personal equation of the patient must depend the operator. If we find a patient who is willing, but has not the ordinary amount of resistance, the matter should be discussed more seriously than with the average. On the other hand, an enormous responsibility rests upon the shoulders of the operator when he closes a wound in which there is any abdominal infection.

It has been the experience of most of us to see a bit of bowel denuded in liberating it from some other coil. The moment you uncover it from its peritoneum you then expose an area which may become a focus of infection. If, on the other hand, with a knife blade you go step by step, cautiously dividing the little adhesive bands that join, and if where we have an adhesive band acting as a constricting band it can be lifted carefully up, tied, and then divided, leaving the coat of the intestine intact, we have accomplished very much and are rid of the necessity of abdominal drainage. The reader alluded to the dangers of removal for abdominal drainage. In a case which had gone on very favorably for 5 days and in which there was diffuse septic peritonitis, I was unwise in attempting to remove the Mikulicz sac at the end of the 5th day before it was softened by exudate. I loosened up the pack and the surface of the bowel at once bled a little. It looked unpromising and the patient went on to immediate chill; death followed in 48 or 72 hours. Had I been wise enough to have left the drain without any thought at all of its removal for 48 hours I believe that patient might have recovered. The inability of the surgeon to drain the peritoneal cavity in the presence of diffuse infecton I think has been dealt upon sufficiently.

Dr. E. E. Kelly, San Francisco—I think there is one point which ought to have been mentioned and that is the particular part of the peritoneum which is to be drained. Robinson has proved that the infection in the upper portion of the abdominal cavity is much more serious than infection in the lower portion. Experiments which I think he made on animals proved very conclusively to his own mind that the fatality of infection is very much more rapid in the upper than in the lower portions. Where there is a general septic infection there can be very little danger from drainage. I believe we are at the point of a better understanding of when drainage is necessary and when it is not. That is the most difficult question.

Dr. Emmet Rixford, San Francisco—The idea that the general peritoneum cannot be drained is not a new one. It was advanced by Olshausen long ago. But it has taken a long time for it to be generally accepted. We have recently entered upon a new era in abdominal surgery. We have discovered that the peritoneum is the surgeon's best friend. It will remain our friend as long as we refrain from abusing it. This fact is definitely admitted by most surgeons, and yet men will operate in the midst of an advancing peritonitis, thereby destroying what resistance there is, destroying the peristalsis of the bowel by mechanical irritation. They will go on opening localized abscesses across the sound peritoneum and hunting around with the exploring finger, and thereby spread the infection. They will go on flushing such pus cavities, still further spreading the infectious material over the abdominal cavity with the idea that the peritoneum will be better able to handle it. In my opinion, this is all wrong. Localized abscesses ought never to be opened across the healthy peritoneum unless ample provision is made by packing to prevent the pus from reaching the peritoneum; it is a fault of personal technique if peritonitis follows the opening of localized abscesses. The work of Ochsuer of Chicago is now the subject of great discussion all over the surgical world, and there is much to be said in favor of his position. If you operate in the presence of an advancing peritonitis you destroy the resistance which still remains. If you leave the thing alone, nature will do something towards destroying the infectious material. You cannot remove all the bacteria from an infected peritoneum and your efforts to do so will cause paralysis of the bowel and do more harm than good. If the localized abscess be in the pelvis in the female it can be opened through the vagina. In the male the abscess cavity can be opened just as readily through the rectum. It is nature's method of evacuating abscesses into a hollow viscus. Personally, I have operated in five such cases, putting in permanent T drains with no uncomfortable result to the patient. In some cases I have closed the abdomen and then gone in through the rectum with a blunt dilating instrument. The matter of gunshot wounds has not been mentioned. That is another point for debate. A gunshot wound of the abdomen is almost necessarily infectious. It is a case of acute infection. It is not the same thing as infection from old pus poured into the peritoneum. In old pus the bacteria are dead, but in a gunshot wound you have very likely injury to the intestine or stomach or bladder. Pieces of clothing are carried in. There is no time to make cultures nor to determine whether the bacteria present are in virulent culture or not. In these cases it is vastly better to make drainage. The question is where to make it. If the wound is in the upper part there is no question that the drainage should be made through the posterior wall deep down in the flanks.

Dr. A. S. Lobengier, Los Angeles—The reader of this paper has given us principles which unquestionably represent the best surgical treatment in this country. It seems to me that we are to-day very much nearer a rational solution than before. Undoubtedly the region of the right hypochondrium represents a field

in which drainage will have to be considered as important for infectious and gangrenous conditions. The pelvis can be approached and drained more easily than the region of the gall bladder and pancreas. Drainage in the average case is not necessary; I feel that it has been the cause in many cases of the untoward result. I want to urge against the common use of the Mikulicz drain. It has a very limited use. A drain can be improvised from gutta percha tissue, using the rubber tissue as a substitute. In this way you can get the best area of drainage with the least adhesions, and you can remove a drain of that kind in 24 hours without any damage and without any fear of irritation to the intestine and peritoneum.

Dr. J. Rosenstirn, San Francisco—While modern surgery is fully in sympathy with the principles advanced by Dr. Stillman, I believe there are some exceptions which he has not mentioned to-day, where even a Mikulicz drain may be needed. Some cases do not always yield to such measures as Dr. Stillman has mentioned. There are certain changes in the blood, diathetic, in very severe icteric patients, where capillary hemorrhages do not yield to pressure, adrenalin or similar measures. I have had to fight in several cases with such persistent hemorrhages, and the only thing I found was pressure by Mikulicz drain. In the removal of the Mikulicz drain, as laid down by the originator, no force should be applied. Relying upon the adhesions made within the 4 or 5 days, I try to remove it with salt solution irrigation. That is, every day I have saline solution poured on the Mikulicz drain and if there is resistance I pull; with these measures I am able to remove the drain. Another place in the peritoneum where drainage, I think, is necessary is in subphrenic abscesses. If you cut in on such an abscess through the upper part of the diaphragm after shutting off the pleuritic cavity, how will you omit drainage after you have opened the abscess?

Dr. W. S. Porter, Oakland—My personal experience is in support of Dr. Stillman. I have seen many of the class of wounds such as Dr. Stillman describes.

Dr. O. O. Witherbee, Los Angeles—What I wish to say is simply what we all would corroborate; it is beyond any surgeon to tell just when and when not to use a drain. I have closed with and without drainage. I agree with the speaker that in a larger percentage of cases closing without drainage gives very excellent results. I have closed the peritoneal cavity without drainage, feeling that my patient would do as well as the average patient and had develop within 12 or 18 hours a temperature. I have taken a pair of forceps, passed them into the incision and had a gush of fluid spurt from the opening. I have inserted a small strip of gauze and had that patient do exceedingly well after this fluid had escaped which it was evidently trying to do. We cannot tell every time when to use and when not to use drainage. If a great quantity of gauze is put into the abdominal cavity and pulled out with force it is a huge mistake. We should use a very slender strip and wait until the parts are willing to release it.

Dr. C. M. Cooper, San Francisco—I would like to ask Dr. Stillman regarding the posterior drain, in what cases he uses it, and if he uses posterior drainage after operating upon a case of acute infection?

Dr. Stillman—The discussion has taken a wider range than I have taken in my paper. It is impossible to cover all this ground in one paper. There is but one idea in the paper and that is that the peritoneum, in combatting with mechanical or chemical irritation will drain itself and will dispose of microorganisms and fluids which are not too septic and too virulent. In cases in which the temperature rises suddenly and on culture show streptococcus infection, nothing would save the patient. We do not drain so much as we used to do. If you have a reasonable excuse for leaving out the drain, do it. A subphrenic abscess, that is an abscess in itself, localized, a pancreatic cyst, a cyst of the pelvis, etc., is something to be drained as any abscess is drained. No one uses a Mikulicz drain if he can use anything else. Where a little, slender drain is used, it might be left out. I am only giving you my experience and am asking your opinions. As far as the gall bladder is concerned it is well pointed out that drainage is needed there. The natural drainage of the abdomen is toward the diaphragm. In order to prevent peritonitis drain toward the diaphragm. The dangerous part of the peritoneum is the upper part next to the diaphragm. If you have localized collections of pus inside or outside of the gall bladder, drain as you would in other collections of pus; where you remove the gall bladder without soiling the surrounding part, close it up. As to gunshot wounds I would treat by washing out, sewing up, and leaving alone unless I feared the wall might be infected. How many have recovered on the battlefield without any treatment at all!

The Reed Memorial Fund—The Committees appointed for the purpose by the American Medical Association, the American Association for the Advancement of Science, and the Congress of American Physicians and Surgeons, met August 15 in Bar Harbor, together with friends of the late Major Reed, M. D., U. S. A. Representative men were present from different parts of the country, and letters were received from various members of committees already appointed to promote the collection of a memorial fund in grateful commemoration of Dr. Reed's services in connection with yellow fever. Important suggestions were presented from President Eliot, Dr. W. W. Keen, Prof. J. W. Mallet and others. Dr. Daniel C. Gilman, chairman of a committee appointed by the American Association for the Advancement of Science, presided, and Dr. Stuart Paton acted as secretary. Among those who took part in the conference were Dr. W. H. Welch of Baltimore, Dr. Janeway of New York, Dr. Abbott of Philadelphia, Dr. Herter of New York, Dr. Parker of Chicago, Dr. Putnam of Buffalo, Dr. Fremont Smith of Bar Harbor and Dr. Sajous of Philadelphia, and beside these medical gentlemen, Bishop Lawrence of Massachusetts and Messrs. Morris K. Jesup, president of the New York Chamber of Commerce; John S. Kennedy, president of the Presbyterian Hospital of New York, and William J. Schiffelin of New York. It was decided that an effort should be made to raise a memorial fund of $25,000 for Dr. Reed's widow.

Hypnotism as Anesthetic for Major Operations—The successful amputation of a limb under hypnotism is reported (*The Lancet*, London, August 22) in a patient suffering from necrosis of the bone and severe ulceration of the leg. In a previous operation the patient bore the anesthetic badly and hence wished to be relieved of the necessity of taking another. Hypnotism was used as a last resort. The operator refused to work unless the means for anesthesia were at hand, but fortunately their use was not required. The patient went through the operation successfully and the temperature at no time was above normal. Recovery was uneventful except for a slight hemorrhage and sloughing of a portion of the flap, which was not accounted for. While we believe that hypnotism as a therapeutic remedy has long passed its heyday, its occasional use will doubtless still be heard from.—*Jour. A. M. A.*